# M 5.9, Mindanao, Philippines
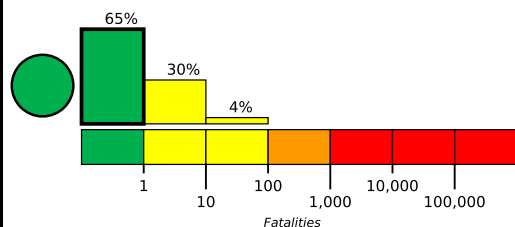
Origin Time: 2023-10-19 18:58:51 UTC (Fri 02:58:51 local)
Location: 7.4507° N 126.3499° E Depth: 10.3 km
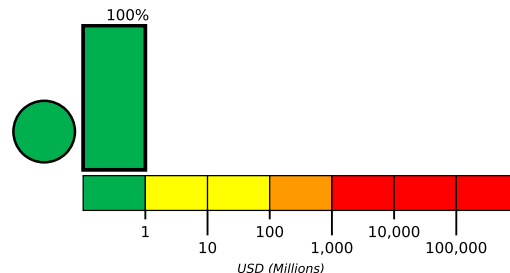
**PAGER**
**Version 5**

Created: 1 day, 0 hours after earthquake

## Estimated Fatalities



65%
30%
4%

Fatalities: 1  10  100  1,000  10,000  100,000

Green alert for shaking-related fatalities and economic losses. There is a low likelihood of casualties and damage.
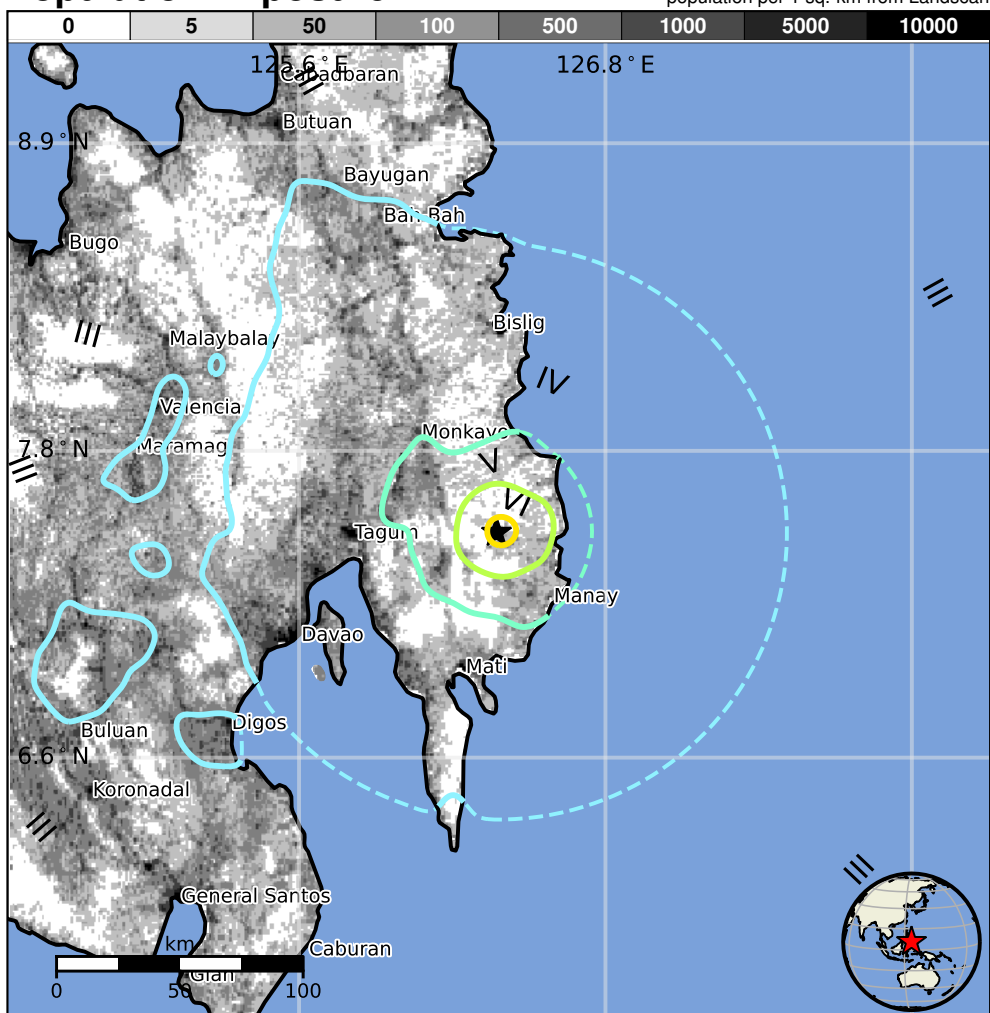
## Estimated Economic Losses



100%

USD (Millions): 1  10  100  1,000  10,000  100,000

## Estimated Population Exposed to Earthquake Shaking

| ESTIMATED POPULATION EXPOSURE (k=x1000) | | –* | 7,292k* | 7,120k | 798k | 54k | 5k | 0 | 0 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| ESTIMATED MODIFIED MERCALLI INTENSITY | | I | II-III | IV | V | VI | VII | VIII | IX | X+ |
| PERCEIVED SHAKING | | Not felt | Weak | Light | Moderate | Strong | Very Strong | Severe | Violent | Extreme |
| POTENTIAL DAMAGE | Resistant Structures | None | None | None | V. Light | Light | Moderate | Mod./Heavy | Heavy | V. Heavy |
| | Vulnerable Structures | None | None | None | Light | Moderate | Mod./Heavy | Heavy | V. Heavy | V. Heavy |

*Estimated exposure only includes population within the map area.

## Population Exposure

population per 1 sq. km from Landscan

0  5  50  100  500  1000  5000  10000



## Structures

Overall, the population in this region resides in structures that are a mix of vulnerable and earthquake resistant construction. The predominant vulnerable building types are unknown/miscellaneous types and heavy wood frame construction.

## Historical Earthquakes

| Date (UTC) | Dist. (km) | Mag. | Max MMI(#) | Shaking Deaths |
|---|---|---|---|---|
| 1987-05-23 | 115 | 5.7 | VII(70k) | 1 |
| 1990-02-08 | 319 | 6.7 | VIII(96k) | 1 |
| 2002-03-05 | 284 | 7.5 | VIII(12k) | 15 |

Recent earthquakes in this area have caused secondary hazards such as landslides that might have contributed to losses.

## Selected City Exposure

from GeoNames.org

| MMI | City | Population |
|---|---|---|
| VI | San Pedro | 4k |
| VI | Batiano | 2k |
| VI | Baculin | 3k |
| VI | Mahanob | 4k |
| VI | Bantacan | 3k |
| VI | San Rafael | 2k |
| IV | **Davao** | **1,213k** |
| IV | **Butuan** | **310k** |
| III | **Koronadal** | **126k** |
| III | Cagayan de Oro | 445k |
| III | **General Santos** | **680k** |

bold cities appear on map.  (k = x1000)

PAGER content is automatically generated, and only considers losses due to structural damage.
Limitations of input data, shaking estimates, and loss models may add uncertainty.
https://earthquake.usgs.gov/earthquakes/eventpage/us6000lgpg#pager

**Event ID: us6000lgpg**